8. Under the process of correlation, wherein real forces lose their individuality, only abstract or general force abides. This may be called IDEAL force when contrasted with particular real forces; it is cognized only by inference, and not by immediate sensuous perception. It is a really-existent universal or generic entity — an Actuality whose manifestation is the correlation of forces. The particular forces are *its* reality, but not their *own;* for their manifestation is their destruction, but both phases give evidence of the reality of the Universal. In the entire round from one force through all the others back to the same force again, we have the successive annulment of all the characteristic distinctions of the several forces, and thus we have left force in general as the pure negative might whose constitution or nature is self-made by its activity in the play of forces. Its universal nature — its ascent out of particularity — refusing to be limited to a special form — appears in the negative side of the process, wherein it perpetually annuls special characteristics. Its positive affirmative side appears in the perpetual production of the special out of the negation of (old forms of) the same.

9. Wherein this Universal force, which is a self-determined, differs from the thinking activity or Mind (ἐντελέχεια), is a profitable inquiry. But the sole point we had in view here was simply to show the new doctrine of Realism now arising in place of the dismal nominalism and stifling conceptualism in vogue.

THEORIES OF MENTAL GENESIS.

By JOHN WEISS.

The later scientific method derives the conscience from selected experiences of the useful and agreeable. In the finest minds the moral sense is only the clarified residue of the experiences of people in learning to live safely and comfortably with each other. It sums them up, but can add nothing to them. It becomes, like a family resemblance, a permanent trait acquired by inheritance. A fresh experience may compel a fresh adjustment, and the moral sense can be

modified from without by a social exigency, but it has attained to no independent power to force its own adjustment upon experience. It is never conscious of an exigency of its own, which may transcend experience, and dictate to it; such a faculty is as inconceivable as that a fountain should rise higher than its source. Acts of moral heroism are suggestions of an ultimate utility which persuade the individual to sacrifice himself. But what is the origin of such suggestions which contradict the average sense derived from human experience? The scientific method insists upon its derivation of conscience from empirical observation, yet proceeds to explain transcendent morals which reform the race and abolish any wrong that average experience has incorporated in its social system, by endowing certain individuals with the capacity to conceive of a more beneficent system, to anticipate the future, to sacrifice peace, the feeling of approbation, the immediate security of society, life itself, for the sake of a finer idea of Right. These individuals are moved thereto, perhaps, by seeing outrages, or by suffering from them. But what impels a man who suffers from a wrong which is upheld by society, to increase his suffering by protesting against it in behalf of other men? Every feeling of the useful and the agreeable would counsel him to keep his suffering and that of his fellows at a minimum. Experience has gradually founded the system which surrounds him: it can no more furnish him with the seeds of his revolt than the nut of a beech can provide the acorn for an oak. When the empirical method is held strictly to its own logic, this absurdity is perceived, of something resulting from objective experience different from all the objects which constituted that experience. A state of morals at any epoch is only the state of comfort, happiness, usefulness, and mutual approbation of the majority; it is an average attained by the exigencies of the people who are forced to live together. Logically that average is insurmountable; but practically it is constantly surmounted, and society is compelled to assume a higher average by men of a forlorn hope who propose a conception of religion, of worship, of human rights and happiness, which nowhere exists, and which could not therefore be suggested by empirical sensations. They are frequently men

who conceive these things from afar, without the stimulus of personal suffering, quite removed from that into calm regions of meditation. They emerge from the solitudes of thought to proclaim the advent of a fresher and more just society: but the sense of justice, the instinct of order, devastates the things that men hold dearest, and, if the thinkers are obstinate, demands their life as a sacrifice to existing order. One thing is "said by them of olden time"; but these men, the products of no time at all, step out of a purer conception, and are heard, "But *I* say unto you." What an unaccountable phrase if morals are nothing but the silt which time brings down and deposits. There must be somewhere existing an Absolute Righteousness, the inspirer of every more righteous future, as there must exist a Plan of Absolute Intelligence, the continuous cause of every developing epoch of creation. The hero of Right and Absolute Religion is not maddened by suffering into forgetfulness of self, but possessed by a higher Self which his fortunate structure invites into him and to which he responds. Or, shall we suppose that his structure develops an exceptional Self? At any rate, the empirical method does not account for him, because he is essentially different from all the materials and sensations which it has to work with to produce notions of utility and social approbation. We may concede that such results may be derived from such materials; but the burden of showing the genesis of prophets and reformers rests with those who would restrict us to these materials alone.

In Mr. Huxley's book, entitled "More Criticisms on Darwin," I find the following paragraph: "Assuming the position of the absolute moralists, let it be granted that there is a perception of right and wrong innate in every man. This means simply, that when certain ideas are presented to his mind the feeling of approbation arises, and when certain others, the feeling of disapprobation." I should suggest to Mr. Huxley that he would more correctly say, *the feeling of approval;* that is, the mind approves of the right idea which it perceives. The word *approbation* includes a sense of approving one's self; but this may be, and generally is, absent from a simple perception of Right. Mr. Huxley's mistake is clear in his very next sentence, where he says: "To do your

duty is to earn the approbation of your conscience, or moral sense; to fail in your duty is to feel its disapprobation." Of course: but the question is of simple perception of an idea of a right act and of a wrong act; the idea of doing either personally is not involved. So that there can be an absolute perception of an act as right or as wrong, pure and simple, without any mixture of personal satisfaction or pain. The unbiased moral sense can simply recognize right and wrong, as the mind perceives that two and two make four; both recognitions are an organic necessity. If the recognition of a right thing is reflected on, then approval of it arises: a feeling closely bordering upon the mental satisfaction which accompanies the perception of truths and facts of the exact sciences. But the pleasure and pain of self-approbation and disapprobation cannot arise until the Self transfers or fails to transfer its moral perception into private action.

So that there is something in man *besides* the "something which enables him to be conscious of these particular pleasures and pains."

Now the *origin* of this moral Something is a distinct question. It may have descended from obscure traits of anticipatory moral action which reign in the animal world. Transferred into human and social circumstances, they may have filtered through a developing sense of the useful and the salutary, till they were deposited in average habits of behavior. But these traits reach at length in the finest brains a capacity of being self-perceived as immutable morality, distinct from motives of utility, or of pleasure and pain, whether they travelled manward by those routes or not. There is no objection to the theory that they did, until it undertakes to insist that they have not emerged from those routes upon a broad land of a Conscience which transcends all selfish feelings, to sacrifice them to a more arduous Right yet unattained, whose attainment may involve the hero of Conscience in ruin.

The latest scientific method derives the Imagination, as it does the Conscience, from accumulated sensations. But its language here struggles painfully to bring its phrases up to the level of the whole function of Imagination. It is quite inadequate to say that a brain well compacted with images

derived from natural objects, spontaneously creates the associations between them and human moods, passions, and emotions; that a sense of symmetry and beauty, a feeling for landscapes, a power to evolve them out of the crude assemblage of natural features, a gift of constructing all the sensations derived from life and nature into the sublimity of poetry and song, results from the number and variety of these sensations taken into a temperament of sensibility, where they are moulded, fused by personal passion, and express cerebral felicity of structure. These phrases mix up the raw material in which the poet, artist and composer work with other phrases which are assumptions that it also generates their working faculty. That is the very point involved. No doubt the poet has received a multiplicity and variety of sensations. The difference between him and other men is first a capacity to receive them; second, a capacity to transform them into his own personality; third, a capacity to express them, thus transmuted, with a rhythmical flow that involves the whole of Nature and man in its course, and converts Nature into a metaphor of his private vitality. No number of empirical sensations derived from Nature, no experience of mankind, no recollection of its history, can account for this result. A brain of rare structure incorporates a world, but gives it back to us another world; or, rather, the world's secret is fathomed and betrayed: we see it not as it always seemed to us, but lifted into a passionate and symmetrical vitality, which transcends every empirical sensation, and is, in fact, its reason for being: and that is something which mere sensation cannot supply. Held to strict logic, the materialist has no right even to the phrases he employs in speaking of this subject.

H. Taine says that there is a fixed rule "for converting into one another the ideas of a positivist, a pantheist, a spiritualist, a mystic, a poet, a head given to images, and a head given to formulas. We may mark all the steps which lead simple philosophical conception to its extreme or violent state," as in the passage which he quotes from Sartor Resartus, beginning, "generation after generation takes to itself the Form of a Body, and, forth issuing from Cimmerian Night, on Heaven's mission appears." "Take the world as science shows

it," continues Taine, "it is a regular group, or, if you will, a series which has a law; according to science it is nothing more. As from the law we deduce the series, you may say that the law engenders it, and consider this law as a force. If you are an artist, you will seize in the aggregate the force, the series of effects, and the fine regular manner in which the force produces the series." In this connection Taine evidently recalls the novels of Balzac, who develops the character of various human passions as primitive forces, which appear in objective facts of men and women, who are to be observed, without praise or dispraise, as beings who develop organically their whole moral disposition, and whose joy or grief may be inferred according to the judicious rule laid down by Hegel, that every work of art depends for its moral upon the person who is studying it. Elsewhere Taine shows how Thackeray, for instance, violates this rule. "To my mind," continues Taine, "this sympathetic representation is of all the most exact and complete; knowledge is limited as long as it does not arrive at this, and it is complete when it has arrived there. But beyond, there commence the phantoms which the mind creates, and by which it dupes itself. If you have a little imagination, you will make of this force a distinct existence, situated beyond the reach of experience, spiritual, the principle and the substance of concrete things." By the simple intensification of this quality, the metaphysician and the mystic are evolved. But notice here how Taine has smuggled in the phrase, "if you have a little imagination," as if that faculty were something excrementitious, whose products are what alimentation abandons and expels. It occurs to us to inquire, at the lowest, if imagination may not be a mode of force: if so, it must be taken into the account of mental development, where it appears to be something quite as positive as any passion which Balzac describes. It is then a legitimate object whose products cannot be rejected merely because they deposit in the mind a sense of Spirit. They push out a horizon filled with images and correspondences which are different from visible things, and which those things, left to themselves, could not procreate, any more than a garden of flowers could impregnate itself. A viewless wind must stir the celibate stalks—a ranging bee

must make its geometric cell an excuse for these promiscuous marriages. Here is the point where the scientific method, which is complemented by Taine's artistic method, fails to account for all the facts that a universe provides. As soon as the word Spirit appears, or phrases hinting at the Invisible put in their claim, or a capacity that transcends inherited effects is supposed, the empirical method disclaims it all, as Conscience is explained to be the cumulative result of experiences of utility. Yet the scientific method itself is indebted to the faculty of imagination. That is a twofold faculty: it performs two functions.

First, it anticipates subsequent epochs of scientific interpretation by incessant proclamations of the essential unity of all things. Its instinct is for similarities; it floats at so great a height that objects appear blended, but the horizon from that height is so enlarged that a hemisphere of objects is spread out. It selects on one meridian the counterpart of an object upon another, though it may skulk, and imitate the color of its neighborhood, hoping not to be swooped upon and assimilated. Its prey runs in forests and multiplies in all seas. The ocean is a saucer, and its bottom scarce skin deep. And the distances which lie within the galaxy are sanded with the gold dust of its imagery. The firmament is a solid floor on which this sense of unity can walk.

This instinct appears first in poetry, where Nature is rifled of all the features that can correspond to our emotions, or serve as symbols of our thought.

> "The forest is my loyal friend;
> Like God it useth me."

And like God we use the forest. Its million leaves dance in the anticipation which our mind has that this "sense sublime of something interfused" will turn out to be the identity of law and object, of the creature and the Creator, of the scenery and the seer. And all the images of the Poet, so far from being the bastards of an irresponsible impulse which ravishes an idiotic universe, are the healthy children of the only realism that dare aspire to his feathered hand. See it tremble in moments of conception! God remembers His rapture. There is not an object which is not a passion—

not a passion which does not overtake itself in objects. What is my thought like? Whatever it be like, that is my thought, or else it could not be like it. How irrational and fantastic seems this conclusion to which the imagination leaps with the faith of a child in his "make believe"! How futile this hysteric passion which mounts to the eyelid and inundates the cheek at the happy rashness of some image that abolishes time and space, and makes the dirty earth a lens! We put our eye to it. Thou Deity, our eyes have met!

There is no sense in this transubstantiation of poetry, except to the senseless communicants, until the epoch of scientific Synthesis arrives, and the imagination is justified in ransacking the universe for symbols. Synthesis is imagination secularized. I mean that every one of the old symbols, the old confidences with Nature, the old obscure sympathies, the artless pretences that objects are personal and vital, and all related through the observer, are now proved to be the mind's expectation that there is but one kind of intellect, but one object, and but one law or mode of divine manifestation. Synthesis builds a hive for imagination to dwell in; the structures planned by the original Geometer are filled with myriad meadows of sweets distilled to sweetness.

This leads me to say that, secondly, the imagination sometimes anticipates, at any existing epoch of information, a subsequent epoch, when all the facts collected up to that date justify the anticipation. They are interpreted by a law, or by a mode of Force which put them forth. They arrive at length in sufficient number, and in relations obvious enough, to vindicate the previous divining of the imagination. Hardly a great man, from Pythagoras downward, can be mentioned who did not have fore-feelings of the genuine scientific direction, in Number and mathematical relation, in the qualities of Motion and their application to planetary phenomena, in the sphericity of the earth and stars, in the law of musical intervals, in the applications of the arc and conic sections, in the position of the earth in the solar system. Before the facts were in, the method was surmised; sometimes the law itself was hinted at, and imperfectly formulated. Now, no unconscious cerebration, or automatic sorting of impressions derived from the number and similarity of facts, can promulgate

or anticipate a law, because that is something essentially distinct from Object. There may be simultaneousness in the appearance of law and object; we may admit that the two are really one, a moment in which identity appears, a focus of correlation. But there is not any feature of this intimacy which can proclaim itself; that is not done for a long time, nor until an independent mental faculty appears of such a divining nature that it is not at any epoch a common human faculty. It is the result of rare structural qualifications, which recur to Creation with the gift that made creation possible, with a power to repeat by a sense of Cause the logic that caused, to create a mental synthesis that sweeps all observation into the unity of a Law, to show that all the sciences are Protean moods of one eternal moment of correlation, to speak at length in human language the plan which without speaking planned. That ineffable creative word becomes flesh in the divinings of imagination. They precede any collection or arrangements of objects, just as infinite Will must have preceded its own going into objects. Or, if Will and Object be continually identical, it is not in consequence of Object. We cannot eradicate or explain away that aboriginal habit of the scientific imagination to ask Why? as the child does; and to answer, Because! as the child does. "Of such is the kingdom of Heaven." Object cannot ask nor answer, because it cannot originate. But the intellect does not wait till all the facts are in, any more than the divine Mind did in order that the facts might be created.

Luther said, "the principle of marriage runs through all creation, and flowers as well as animals are male and female," before botany was dreamed of, or the principle of vegetable life divined. This was an anticipation as remarkable as that of Swedenborg, who clearly posited the nebular hypothesis before he or any other man had an inch of standing ground to show for it.

Now, if at any epoch the finest brains — those, namely, whose synthetic method is rarefied by imagination—are only deposited by empirical contact with the world, so that their state of intelligence is nothing but juxtaposition of facts, and their structure nothing but a result of microscopic packing of sensations, such brains could not discharge the functions of

which they are conscious. The problem is to build a brain. Let us build it after the fashion of the materialist. The animal kingdom slowly elaborated the cerebral matter, and roughly mapped out the relation of its parts. Nature, cautiously feeling her way from species to species, from simple to complex forms, from a dot of plasma to the complicated lobes which respond to external circumstances and record them, contributes the whole of the process to the progenitors of mankind. What had their brain become by that time? It was an agglutination of sensations. What must have been the result of the first sensible impression which was made upon the earliest rudimental nerve-matter? That question is answered by the discovery that the nerve-matter was a part of the objective world which produced the impression. It did not lose or modify its character by being eliminated from that world; it was still one of its discrete forms, and identical in substance. Then the object which impressed it and the impression were identical. The object was the sensation. There is no infinitesimal rift into which you can thrust your surmise of a difference and pry apart a sameness into duality; that is, into the supposition of an object to impress and an object to be impressed—one to become by means of that impression something different in kind from the object that impresses. Brood upon that primitive relation of plasma to all the rest of elemental matter. You cannot hatch it into a different kind of vitality by merely saying that plasma was a more highly organized matter. You cannot establish a schism in matter by determining grades of organization. Every grade preserves, prolongs, embodies the original identity in which it was contained; just as oxygen by aërating the blood impresses it with the character of oxygen, but does not liberate it from the materiality which they both share. A nerve-sensation is not a leap from Object into Subject.

If it is not, as the materialist alleges, then it makes no difference how many sensations the accumulating brain receives and registers. Their number cannot change their quality. On the long route of developing mankind there is no station where independent mentality may step on board. The train stops for refreshment, wood, and water. But the food and the fuel still correspond to their own motive power and digestive

ability. Stomach and food, brain and object, are convertible expressions. All objective circumstances remain unaltered; nerve-matter accumulates because sensations do. The first word of human speech, the first musical cadence, the first smatter of the natural language of human emotions on the face, the first prattling of social intercourse, the first fumbling for a tool of bone or flint, the first sparkle kindled in the dry pith of the fennel — all these rudiments of society were only the sensations of Sensation, the objectivity of Objects. The brain was but another object set up by the concurrence of objects, a self-registering world in the compass of a skull. Even if the cerebral capacity should cease to expand, while the perceptions continued to accumulate, it never can be filled; for the method of packing them is economical of room. If a drop of water is capable of containing 500,000,000 animalcules endowed with locomotive limbs, there must be room enough in any brain for any number of objective residues. But so long as the world does not swerve from its own objectivity and change its climate, so long does the human brain continue to be its odometer, or automatic tally.

"The Holothuriæ living in the South Sea, which feed upon coral sand, spontaneously eject their lungs and intestine through the anus when they are transferred to clear sea-water; then they construct new bowels corresponding to the new conditions." But Object does not transfer the human brain into the element of Subject, so that it can void its assimilative structure, and set up the liver, lungs and lights of Subjectivity.

I think this is a correct presentation of the latest materialism, which derives all mental functions from an automatic system of storage of objective impressions. But its advocates have not yet looked in the glass of their own theory. I have tried to reduce it to the absurdity which lies latent in it. It is this. It has nothing but objects to start from, nothing but them to accumulate, and yet it assumes to arrive at something which is not object; for instance, its own capacity to make any assumption at all, and to deny that the capacity demonstrates independent mentality. It will deduce and presume; something which a skull commensurate with the sky, and crammed with objectivity, could never do. It will refuse

to a human being an independent personality: something which nothing but such a personality could do. It started with speechlessness, and had, of course, nothing but agglutinated dumbness to end with: yet it invents words, and commits to them its affirmations and denials; lends them to the poet, who makes whole landscapes share the breath of their life; turns them over to the prophet, who puts them in his thwarts, casts loose from actual states, and pulls into the possible and the desirable; yields them to the synthetic imagination, and hears its own best guesses before it has proclaimed them, and its own experimental method suggested before objects could muster strong enough to raise a whimper; consigns them to the moral sense, and is refuted by a style of speech which transcends the latest moment of utility and social advantage, pronounces in divine men their own death-warrant, and sighs out selfishness upon a million crosses. Was that bit of plasma, then, nothing but one object more in a world full? or, was it an anvil upon which objective impact flew into a spark? Now a myriad hammers of the many-handed Cosmos crash through our skull, and we see stars—abysses full of them! Is it an optical illusion? They appear to attain orbits—they move in definite and harmonious relations—they create distance, deepen it with perspective: flat objectivity is broken up as a thinkable Universe comes pondering through.

Let me have recourse to an illustration.

A planetary motion is the result of two causes: first, a force that acts in the direction of a tangent; second, a force that attracts. What happens when the mind has observed that there are these two forces? Something which discovers their laws. This may be an inductive process, derived from prolonged and numerous calculations, adjustments, and corrections, based upon as many planetary directions as can be observed. Then suppose we wish to ascertain the motion of a planet which is submitted to the influence of these laws. That is a deduction based upon calculation. There is an astronomical duplication of the planetary facts, a mental rehearsing of orbital motions. The facts recur to their Cause through our intellect. Their mere objectivity is not competent to achieve this result, which is something causative, and

therefore essentially different from themselves, which are caused. They are occasions for addressing, stimulating and developing in us a quality which is not themselves, not their counterpart, but which is identical with the quality which caused them. They stand between, and could as soon have originated cause behind them as our causality beyond them. What is the mental fact which takes place when this mediate Object recurs to Subject? Something besides cerebral registering of the succession of sensations produced by the phenomena. That only succeeds in confirming succession or simultaneousness. We call the mental fact Deduction. But that is only a word, and not an explanation. It does not put us into possession of the actual occurrence when objects are mentally fitted with the laws of their causes. It does not explain the nature of that mental moment. To say that it is the result of cerebral movement and waste, of changes in the grey matter in the brain, does not explain it. That is only a dynamical accessory.

In like manner, what happens when an imaginative person, seeing some features of a landscape, or some combinations of light, sky, sea, color, at morn or sunset, invests the scene with his own personality? In fact, the combination called a landscape exists nowhere; it is a pure ideal construction of his own. The scene without is only a palette or a pot of paint. A poetic symbol, a simile which encloses a trait of nature in the amber of thought or emotion, is a mental process unaccountable on any theory of empirical accumulation of sensations.

But we seldom find a materialist who is willing to accept a statement of his method which shows that it really starts with a term that is incapable of starting. Bald matter is impotent to proceed except into fresh forms of matter; and even that process requires that Force should be assumed. And something has to make that assumption. That assuming faculty cannot be merely a form of matter, for no thing can step outside of itself and become what is not Thing. No number of things can do that, though the sensations produced by them accumulate for centuries. They may be irritants, as a drop of acid on a frog's bare muscle after his head is cut off; but they cannot conceive that they irritate, any

more than the frog can conceive that he is irritated. They cannot formulate their unconscious function of exciting our senses.

What does the materialist say when his empirical method is boned in this way, and sinks on the floor of creation a helpless huddle of Object, every articulation and vertebra of his own mentality withdrawn from it? He disclaims the result, cannot tolerate being defrauded of his own analytic and classifying skill, and declares against materialism in that sense. But it has no other sense. The moment he declares against it, he declares in favor of an intellectual perception of an objective sensation, that is, in favor of something which Object cannot generate. His own idealism rises against its jailer, and breaks out of prison in this declaration.

This ought to startle him into making a more distinct definition of the word Matter than he has yet undertaken. He uses that, and the word Object, in the ordinary sense; but he will not recognize all that it connotes when it is pressed to ultimates. And it is astonishing that he can invent such words as Vitality, Force, Correlation, to account for phases of objects, elemental modes, conditions of existence, without feeling compromised. He is obliged to assume something which is anterior to objects and their phenomena, anterior to the sensations produced by them; he speaks of correlation, but says nothing about something previous which does the correlating. If that something be another objective condition, a more tenuous tenuity, it involves the necessity of something still beyond, since mere condition cannot conditionate itself, and no thing can do itself. So that, sooner or later, the words employed by the empirical observer justify an ultimate ground of Being, an absolute Cause; and that, too, justifies Cause in the observer, for Being goes into Object, and not Object into Being.

Perhaps the materialist will take refuge in the Hegelian phrase, "Matter is Being outside of Itself," in order to endow Matter with a causative capacity, and secure perpetual vitality to its plastic germs. Then he may suppose that objective phenomena, in their gradual achievement of the human brain, lent it their primitive endowment as Being outside of Itself, and made of it another animate object. But what becomes

of Being outside of Itself when this object disappears, is disintegrated, ceases to be a focus of Being? It either must recur to Being in Itself, or must be correlated in some mode of Force. Both suppositions make the human intellect only a phenomenal phase of Absolute Being; it is only caused matter, it is on the footing of every other object, its root imbibes the identity of Object and Being, its self-consciousness is only an increase of animateness, but not a differentiation of it into Person. It invents the phrase, to be sure—claims to have or be a self—and that the unconscious animal, reaching man's estate, comes to the line where consciousness begins; man separates to that extent from the world of Object, because Object has been Being all the time. But if it has been Being all the time, one of two things must be true, either that self-consciousness resided all along the route in organic objects, or at no point of it at all; the reputed consciousness of Self is only a phenomenon of Object.

Perhaps the materialist will thank us for such a reduction of the Hegelian phrase to another form of Matter, because it makes Soul and Person impossible on any terms; and perhaps the idealist, discontented with any style of the doctrine of Evolution, will be driven to the notion that there is outside of us an ocean of germinal soul-monads which become allied with human structures.

There are insuperable objections, lying mainly in the direction of the facts of inheritance, to this attempt at spiritualism. In the meantime, the Doctrine of Evolution cannot be dispensed with. The burden does not rest upon us to indicate the point in time and the method of appearing of independent mentality. But we can show that Object can propagate only Object; nor that without something assumed which Object cannot propagate.

Let us take, however, a word which the materialist is competent to invent and is obliged to use—Vitality. He must assume it in spite of the objectivity of every point of his empirical method. Then, in the interest of Idealism, we suggest, taking a statement used by us in another place, "whether there can be any germinal soul-substance except the mysterious force which we call Vitality wherever we see it in the human state. It went into creation allied with

all the germs which have subsequently taken form. It carried everywhere a latent sensibility for the creative law out of which it came. It swept along with a dim drift of the Personality that first conceived and then put it on the way to self-expression. It mounted thus by the ascending scale of animals, and its improvements in structure were preparations to reach and repeat Personality, to report the original consciousness of the Creator that He was independent of structure. At length it became detached from the walls of the womb of creation, held only for nourishment by the cord of structure till it could have a birth into individualism. Then the interplay of mind and organism began, with an inherited advantage in favor of Vitality. Now Vitality, thus developed and crystallized into personality, tends constantly back towards its origin. The centrifugal movement through all the animals is rectified by the centripetal movement in man. The whole series of effects musters in him to recur to an effecting Cause."

Prof. Hæckel of Jena, in his Biological Studies,* makes the following statement: "Protoplasm, or germinal matter, also called cell-substance or primitive slime, is the single material basis to which, without exception and absolutely, all so-called 'vital phenomena' are radically bound. If the latter are regarded as the result of a peculiar vital force independent of the protoplasm, then necessarily also must the physical and chemical properties of every inorganic natural body be regarded as the result of a peculiar force not bound up with its substance."

Very well, why not? Even the vague motions, like the incoherent simmer of a crowd of people on a great square, which take place in the molecules of the densest substance, are dumb gropings of some Force, arrested for the present in the substance, and not to be detected transgressing its limits. But something is there which shares and testifies to a universal tendency towards evolution into other substances and into organic forms. Physical and chemical forces attest the presence of Vitality, as well as the mental functions which use the structural results of those forces. Something

* See Toledo Index, April 29, 1871.

independent of the material basis must have endowed it with its movements and qualities. It certainly could not have originated itself or its forces. Something anterior to the material basis must include and transmit a tendency of Vitality towards mental and moral functions, which are at once independent of the basis and yet closely allied to it.

Let us observe now if any contribution may be made to idealism from another quarter. The empirical method has not busied itself much with the phenomena of musical sensibility, though, to be consistent after including the imagination in its genesis of mind from external sensations, it ought to construct the sense of Harmony and the inventive genius of the composer in the same way, since imagination plays so large a part therein. Some physical facts which at first threaten to support a pure empiric origin for mental functions, turn out upon cross-questioning to belong to the other side of the case, and to contribute toward some more ideal statement.

The German Helmholtz, who has made some profound studies of the laws of Harmony, in his examination of the structure of the human ear, found that the cochlea, or snail-formed cavity, contained a fluid, across which three membranes were thrown — an upper, middle, and under. In the middle compartment he discovered innumerable microscopic disks, lying next each other like the keys of a piano: one end of each of them is attached to the vessels of the auditory nerve, the other end to the outstretched membranes. These disks are the sensitive points which receive the vibrations of musical instruments, and transmit them to the brain in the form of notes and tones. A single string will give off different vibrations from its upper and its middle section. Does the ear solve the sound of a complex vibration made by these waves of different length, or does it receive the sound as a whole? Answering this, Helmholtz says that the physical ear funds the wave-forms into a sum of simple waves, which is the result of their concurrence; since any wave-form you please can be constructed out of a combination of simple waves of different lengths. And as in the instruments, so in the ear, the ground tone wakes the corresponding upper tone.

When vibrations play upon the disks in the ear, it is as if

they played upon banks of keys; and the first physical impressions are produced, sorted, combined, and then transmitted as so much seasoned material to be used in manufacturing music. Then occurs the wonderful moment when Something beyond these microscopic feelers digests the prey they catch into human moods and emotions. What leaps the genius takes, through and across what an unbridged abyss, upon these stepping-stones of disks, to gather the waifs and strays that float upon the manifold sea of Harmony! There is no such startling proof that Nature has at length developed a transcending Person in mankind; perhaps whole races died for it, dissonances and partial chords, or constructed upon vicious intervals, before Harmony could respond to its own laws. At length an essential differentiation seems to have taken place, an abstraction which compels sensations to subserve its subtlest emotions. For at one end of this process is nothing but the disks vibrating in their fluid: at the other end is something rarely and radically different—the gamut of the human heart, the symphony upreared by intellect and feeling, the song exhaling into the mist that sheathes the eye, the lyric whose silvery trumpets summon bravery and nobleness from every drop of blood.

Now, atmospheric vibrations and the structure of the ear enclosing the microscopic disks are the objects which provide empirical sensations. The temperament, culture and inherited susceptibility of the musical composer's brain collect and organize these sensations into the modes of harmony, and reject all dissonance. But when, and by which of the two parties in this transaction, was the earliest step taken toward such a complicated result? There was a time when there was nothing but an atmosphere capable of vibrating, and nothing but an ear capable of receiving the accidental throng of natural noises. There was a time when the first fibre of a plant, the first tense string of some creeping vine, twanged to some chance touch: when the wood of the forest first revealed its resonant capacity, when the dried reeds first sighed and whistled in the wind. This was all the appeal which Nature had to make. Did it originate the sequence of melodies and construct the theory of harmony? What is a dissonance? Is it merely a physical repugnance of the disks for interfering and

contrarious vibrations? Whence, then, the repugnance of the disks? There are tribes of men whose ears have not been furnished with it. There are civilized Indo-Germanic people who cannot tell a chord from a discord. It is not credible that the crude objectivity of natural vibrations gradually selected out of Nature a harmonious ear. Nature has no harmony which could effect such a selection; she has never sorted and combined and weeded out her noises. She is unisonous, monotonous, or full of jar and clash; she has no art to reconcile the voices of the sea, the air, the birds of the forest: each creature has its note and its key, and the air itself is a Babel of cross-purposes. The empirical sensations produced by modern music are drawn from things which vibrate by a law that the things do not possess, and never could have suggested. Harmony has been imposed from within upon their isolated qualities; and an orchestra, so far from being an induction, is an intuition. The Composer listens to its combinations before they are played. His subjectivity has imparted to every instrument its peculiar quality by gradual selection among the woods, reeds and metals of Nature, and by discovery of the isolated shapes which correspond best to atmospheric conditions. His inductive experiments have been presided over by a sense which no induction could have furnished. What, for instance, is the temperament of a piano but a metaphysical compromise between the imperfections of the material and the law of intervals? Harmony, in short, is a refutation which the materialist himself might welcome; but it kills his theory as effectually as the poison poured into the auditory tube, which made a ghost of Hamlet's father.

It is much easier to tolerate the doctrine that a slice of meat, well-assimilated, becomes the poet's happy thought, than to understand how wafts of common air could be transformed into the mighty uplifting of the soul when the orb of music passes over our flat life, and draws emotion into every barren creek, and dashes its tonic against the heart. Physics must allow an essential difference between a vibration and a well-cooked mutton chop; and it is in favor of the stimulating and edifying quality of the chop. Music has been called the image of motion. But when the ear is struck, something else than a wave is propagated. It would be more just to say that Music is imagination set in motion.

The sea-tide writes its diary accurately enough in the sand-ripples. But air did not imprint these footsteps so massive and deep that our own are lost as we try to follow; yet there is no dismay, for in the bosom of each trace lies home's direction,—by which we know that a Beethoven had just passed.

I claim, then, against a strictly logical empirical method, three classes of facts. First, the authentic facts of the moral sense whenever it appears as the transcender of the ripest average utility. Second, the facts of the Imagination as the anticipator of mental methods by pervading everything with personality, by imputing Life to Object, or by occasional direct suggestion. Third, the facts of the harmonic sense as the reconciler of discrete and apparently sundered objects, as the prophet and artist of Number and mathematical ratio, as the unifier of all the contents of the soul into the acclaim which rises when the law of Unity fills the scene.

Upon these facts I chiefly sustain myself against the theory, consistently explained, which derives all possible mental functions from the impacts of Objectivity.

ANTI-MATERIALISM.*

By G. S. Hall.

To a concise though popular restatement of the younger Fichte's, Fontlage's, and Leopold Schmidt's construction of the ego as person, modified as he believes it to have been by Lazarus and Lotze, the author joins a vigorous and original polemic against "materialism in natural science and theology" which he calls an "absurd and therefore impossible form of subjective idealism." This he does in the interest of speculative philosophy, which he would rescue from present discredit and neglect, and to which he would restore an ultimate character as the mediating unity of theology and natural science.

The barren abstractions of the absolute philosophy carried thought into so rare an atmosphere that its utmost effort was

* Five Lectures on Philosophical Subjects, by Ludwig Weis. Berlin, 1871.